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ESTABLISHMENT REPORT

A BHC AQUEOUS EMULSION SPRAY AS A  
PREVENTIVE CONTROL FOR THE BLACK TURPENTINE BEETLE  
IN LOGGING AREAS

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Date



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Date of establishment

Treatment stumps and damaged trees were selected and marked on June 14, but frequent thundershowers during the following week prevented spray treatment. In the meantime, most of the marked stumps and some residuals became infested by turpentine beetles. It was therefore necessary to relocate stump plots in a more recently cut-over portion of the stand and to select uninfested residuals to replace marked ones that had become attacked. Final plot layout and spray treatments were completed on June 24 and 25.

Location of the study

The study was established on the Winn District of the Kisatchie National Forest one-half mile north of the Amberg Road and approximately 7 miles northwest of Williana, Louisiana (fig. 1).

Sawtimber cutting on the area terminated about June 7. An unusually large number of residuals were damaged during logging, which was done under severe drought conditions. Beetles were first observed attacking stumps on June 14. Attacks on damaged trees were noticed the following week.

With a large number of initial beetle attacks and a pulpwood cut expected to start within a few days, conditions for the study appear to be ideal.



#### Deviation from the Study Plan

A change in the original plot design was made as indicated by memorandum of June 14 to the Director.

#### Plot design

Four irregular shaped blocks, each containing 5 replications of single-stump or single-tree plots for each of 6 treatments, were selected. Treatment stumps and trees within each block were randomized. Stumps to be sprayed and stumps to serve as checks were painted on the top surface with a blue "X" and "O", respectively. Residuals were banded with flagging using a different color for each treatment as described in the Study Plan. Several additional trees for each treatment were marked and sprayed in case pulpwood cutters accidentally destroy some of the ribbons. Treatment stump and trees will be marked with serial numbers when the first examination is made.

#### Treatments and spray application

Treatments were as follows:

- Treatment 1. Twenty stumps sprayed with 1.0 percent gamma BHC aqueous emulsion.
- Treatment 2. Twenty unsprayed stumps to serve as a check.
- Treatment 3. Twenty damaged residuals sprayed with a 1.0 percent gamma BHC aqueous emulsion.
- Treatment 4. Twenty damaged residuals sprayed with a 1.0 percent gamma BHC aqueous emulsion plus Aroclor. One-half pound of Aroclor dissolved in 1/2 pint of Xylene was added to 5 gallons of the emulsion.



Treatment 5. Twenty damaged residuals sprayed with a 1.0 percent gamma BHC aqueous emulsion plus Flame-out. Flame-out was added at the rate of 1 part to 100 parts of the emulsion, by volume.

Treatment 6. Twenty unsprayed damaged residuals to serve as a check.

Prior to spraying, sawdust or other debris was kicked away from around the base of stumps and trees. Two men, each using a 3-1/2 gallon garden-type sprayer, covered the bark surface with spray to the point of runoff. Skinned trees were treated to a height of 1 foot above the highest damaged areas. The base of root-damaged (but unskinned) trees was sprayed to a height of 2 feet. Roughly 5 gallons of spray were used for the 20 stumps or trees in each treatment. The stumps were generally of larger diameter than the damaged residuals.



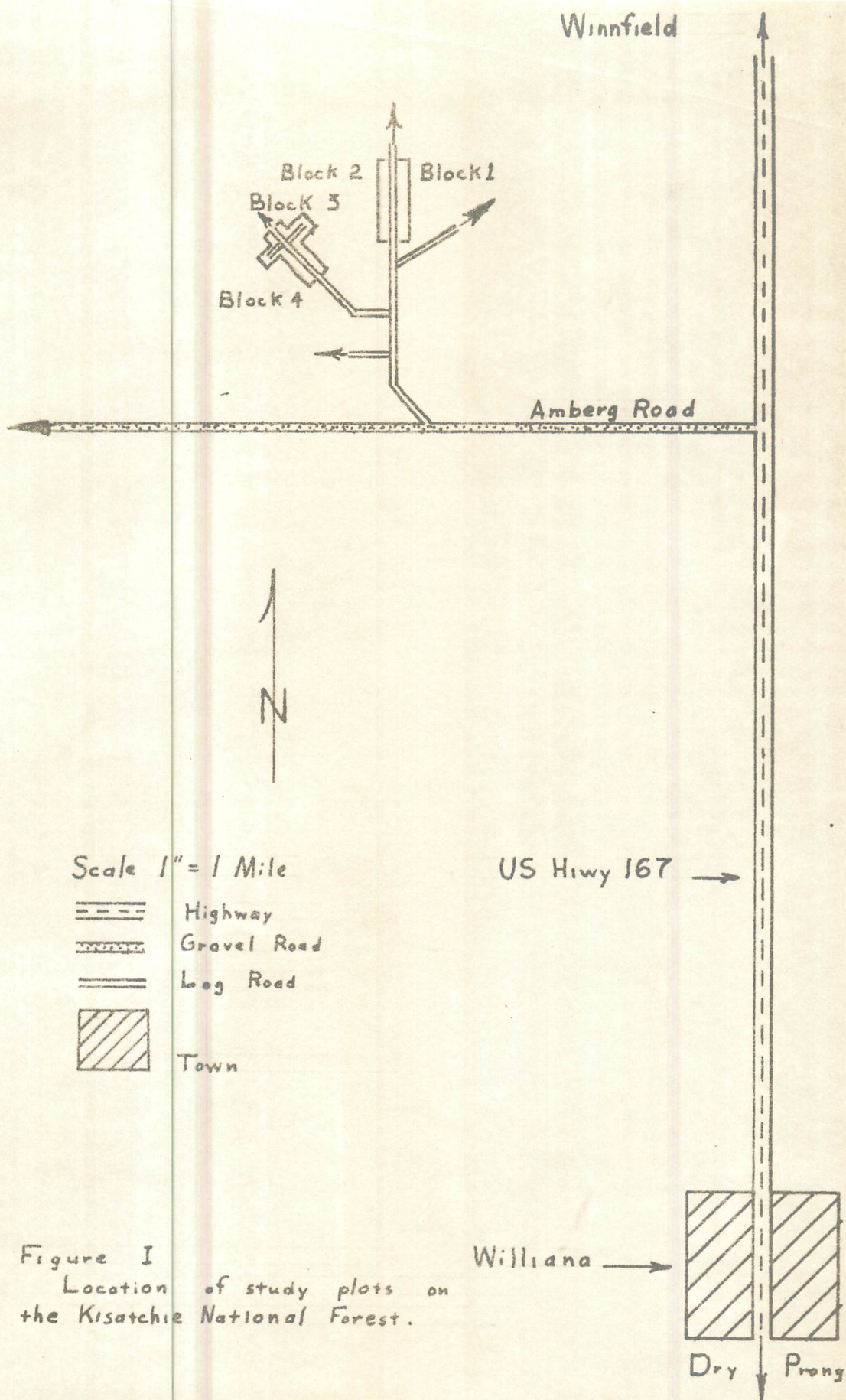


Figure I  
Location of study plots on  
the Kisatchie National Forest.